Introduction

The essence of decision-aiding software is that it consists of various forms of microcomputer programming designed to enable users to process a set of goals to be achieved, alternatives available for achieving them, and relations between goals and alternatives in order to choose the best alternative, combination, allocation, or predictive decision-rule.

Decision-aiding software should be distinguished from at least two other kinds of software that are relevant to making decisions but do not process goals, alternatives, and relations in order to arrive at prescriptive conclusions. One related type of software is information retrieval software. It can be very useful for determining such matters as the amount of money spent on a certain expense item in a certain year, the court cases that are relevant to a particular subject, or any kind of information that might be contained in a statistical almanac, encyclopedia, or other compendium of information. The second related type of software is office practice software, which can be useful for word processing reports, filing and retrieving in-house information, or doing bookkeeping relevant to financial matters. That kind of software is useful for organizing the decision-making processes of a government agency, a law firm, or any kind of office. Such software, however, does not process goals, alternatives, and relations to arrive at prescriptive conclusions.

Decision-aiding software can take a variety of forms. The most common might be the following:

1. Decision tree software for making decisions under conditions of risk, such as whether to go on strike or accept a management offer. A decision tree is usually pictured as looking like a tree on its side with branches and subbranches. The

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Theory and Applications

Edited by STUART S. NAGEL

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